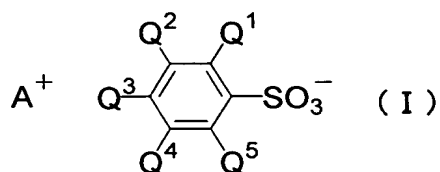
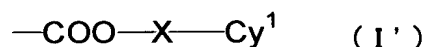


**What is claimed is:**

1. A sulfonate of the formula (I):



5 wherein  $Q^1$ ,  $Q^2$ ,  $Q^3$ ,  $Q^4$  and  $Q^5$  each independently represent hydrogen, alkyl having 1 to 16 carbon atoms, alkoxy having 1 to 16 carbon atoms, halogen, aryl having 6 to 12 carbon atoms, aralkyl having 7 to 12 carbon atoms, cyano, sulfide, hydroxy, nitro or a group of the formula (I')

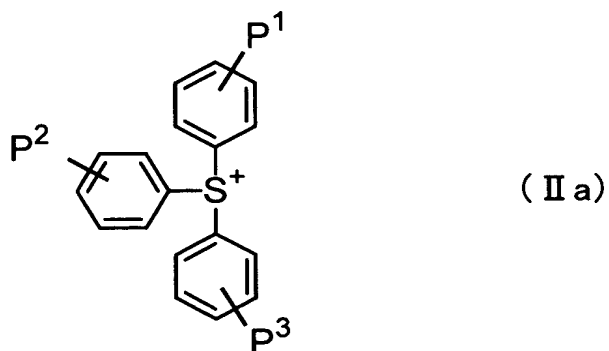


10 wherein X represents alkylene and at least one  $-\text{CH}_2-$  in the alkylene may be substituted by  $-\text{O}-$  or  $-\text{S}-$ , and  $\text{Cy}^1$  represents alicyclic hydrocarbon having 3 to 20 carbon atoms,  
and  $A^+$  represents a counter ion, with the proviso that at least one of  $Q^1$ ,  $Q^2$ ,  $Q^3$ ,  $Q^4$  and  $Q^5$  is the group of the formula (I').

15 2. The sulfonate according to Claim 1, wherein X in the formula (I') is alkylene.

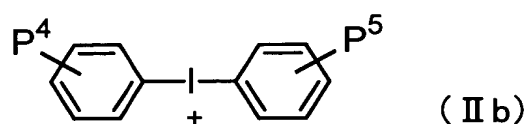
3. The sulfonate according to Claim 1, wherein  $\text{Cy}^1$  in the formula (I') is cyclohexyl, 2-norbornyl, 1-adamantyl or 2-adamantyl.

20 4. The sulfonate according to Claim 1, wherein  $A^+$  is a counter ion of the formula (IIa)



wherein  $P^1$ ,  $P^2$  and  $P^3$  each independently represent hydrogen, hydroxyl, alkyl having 1 to 6 carbon atoms or alkoxy having 1 to 6 carbon atoms.

- 5 The sulfonate according to Claim 1, wherein  $A^+$  is a counter ion of the formula (IIb)



wherein  $P^4$  and  $P^5$  each independently represent hydrogen, hydroxyl, alkyl having 1 to 6 carbon atoms or alkoxy having 1 to 6 carbon atoms.

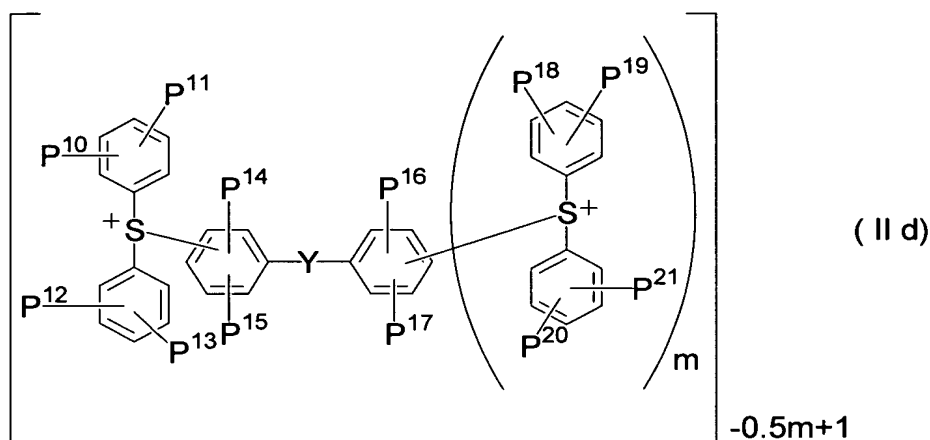
- 10 6. The sulfonate according to Claim 1, wherein  $A^+$  is a counter ion of the formula (IIc)



- 15 wherein  $P^6$  and  $P^7$  each independently represent alkyl having 1 to 6 carbon atoms or cycloalkyl having 3 to 10 carbon atoms, or  $P^6$  and  $P^7$  bond to form divalent acyclic hydrocarbon having 3 to 7 carbon atoms which form a ring together with the adjacent  $S^+$ , and at least one  $-CH_2-$  in the divalent acyclic hydrocarbon may be substituted by  $-CO-$ ,  $-O-$  or  $-S-$ ;  $P^8$  represents hydrogen,  $P^9$  represents alkyl

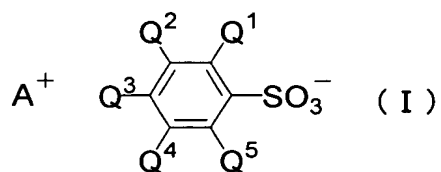
having 1 to 6 carbon atoms, cycloalkyl having 3 to 10 carbon atoms or aromatic ring group optionally substituted, or P<sup>8</sup> and P<sup>9</sup> bond to form 2-oxocycloalkyl together with the adjacent -CHCO-.

7. The sulfonate according to Claim 1, wherein A<sup>+</sup> is a counter ion of the formula (II d)



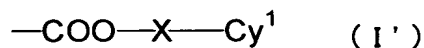
- wherein P<sup>10</sup>, P<sup>11</sup>, P<sup>12</sup>, P<sup>13</sup>, P<sup>14</sup>, P<sup>15</sup>, P<sup>16</sup>, P<sup>17</sup>, P<sup>18</sup>, P<sup>19</sup>, P<sup>20</sup> and P<sup>21</sup> each independently represent hydrogen, hydroxyl, alkyl having 1 to 6 carbon atoms or alkoxy having 1 to 6 carbon atoms, Y represents sulfur or oxygen, and m represents 0 or 1.

8. A chemical amplification type positive resist composition comprising a sulfonate of the formula (I)



- wherein Q<sup>1</sup>, Q<sup>2</sup>, Q<sup>3</sup>, Q<sup>4</sup> and Q<sup>5</sup> each independently represent hydrogen, alkyl having 1 to 16 carbon atoms, alkoxy having 1 to 16 carbon atoms, halogen, aryl having 6 to 12 carbon atoms, aralkyl having 7 to 12 carbon atoms, cyano, sulfide,

hydroxy, nitro or a group of the formula (I')



wherein X represents alkylene and at least one -CH<sub>2</sub>- in the alkylene may be substituted by -O- or -S-, and Cy<sup>1</sup> represents alicyclic hydrocarbon having 3 to

5 20 carbon atoms,

and A<sup>+</sup> represents a counter ion, with the proviso that at least one of Q<sup>1</sup>, Q<sup>2</sup>, Q<sup>3</sup>, Q<sup>4</sup> and Q<sup>5</sup> is the group of the formula (I'); and

resin which contains a structural unit having an acid labile group and which itself is insoluble or poorly soluble in an alkali aqueous solution but becomes soluble

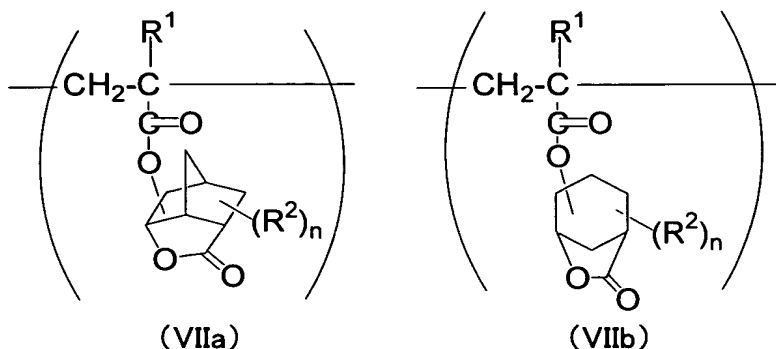
10 in an alkali aqueous solution by the action of an acid.

9. The composition according to Claim 8 wherein the content of the structural unit having an acid-labile group in all structural units of the resin is from 10 to 80% by mol.

10. The composition according to Claim 8 wherein the structural unit  
15 having an acid-labile group is a structural unit derived from 2-alkyl-2-adamantyl (meth)acrylate or 1-(1-adamantyl)-1-alkylalkyl (meth)acrylate.

11. The composition according to Claim 8 wherein the resin contains, in addition to the structural unit having an acid-labile group, further at least one structural unit selected from the group consisting of a structural unit derived  
20 from p-hydroxystyrene, a structural unit derived from m-hydroxystyrene, a structural unit derived from 3-hydroxy-1-adamantyl (meth)acrylate, a structural unit derived from 3,5-dihydroxy-1-adamantyl (meth)acrylate, a structural unit derived from (meth)acryloyloxy-γ-butyrolactone having a lactone ring optionally substituted by alkyl, a structural unit of the formula (VIIa) and a

structural unit of the following formula (VIIb)



wherein  $R^1$  and  $R^2$  each independently represent hydrogen, methyl, trifluoromethyl or, and  $n$  represents an integer of 1 to 3.

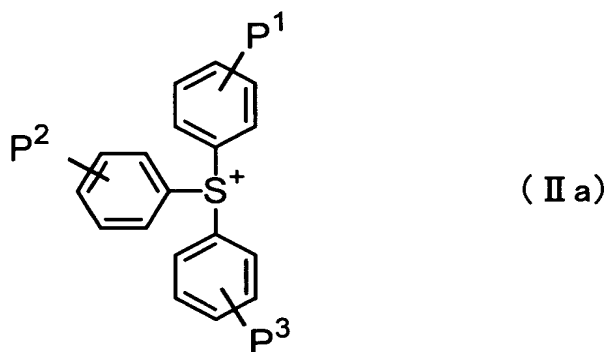
5                      12. The composition according to Claim 9 wherein the resin further contains a structural unit derived from 2-norbornene and a structural unit derived from an aliphatic unsaturated dicarboxylic anhydride.

13. The composition according to Claim 8 wherein the composition further comprises basic nitrogen-containing organic compound as a quencher.

10                      14. The composition according to Claim 8 wherein the composition further comprises a surfactant.

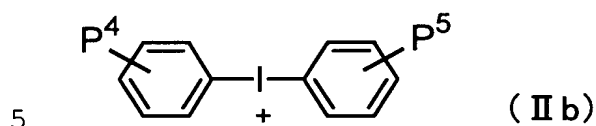
15. The composition according to Claims 8 wherein, in the formula (I),  $A^+$  is a counter ion of the formula (IIa), the formula (IIb), the formula (IIc) or the formula (IIId):

15                      A counter ion of the formula (IIa)



wherein  $P^1$ ,  $P^2$  and  $P^3$  each independently represent hydrogen, hydroxyl, alkyl having 1 to 6 carbon atoms or alkoxy having 1 to 6 carbon atoms.

A counter ion of the formula (IIb)



wherein  $P^4$  and  $P^5$  each independently represent hydrogen, hydroxyl, alkyl having 1 to 6 carbon atoms or alkoxy having 1 to 6 carbon atoms.

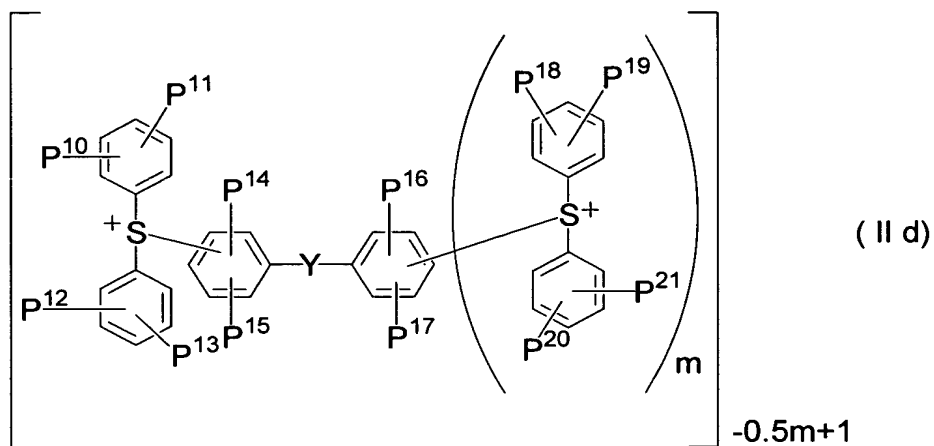
A counter ion of the formula (IIc)



- 10 wherein  $P^6$  and  $P^7$  each independently represent alkyl having 1 to 6 carbon atoms or cycloalkyl having 3 to 10 carbon atoms, or  $P^6$  and  $P^7$  bond to form divalent acyclic hydrocarbon having 3 to 7 carbon atoms which form a ring together with the adjacent  $S^+$ , and at least one  $-CH_2-$  in the divalent acyclic hydrocarbon may be substituted by  $-CO-$ ,  $-O-$  or  $-S-$ ;  $P^8$  represents hydrogen,  $P^9$  represents alkyl
- 15 having 1 to 6 carbon atoms, cycloalkyl having 3 to 10 carbon atoms or aromatic ring group optionally substituted, or  $P^8$  and  $P^9$  bond to form 2-oxocycloalkyl

together with the adjacent -CHCO-.

A counter ion of the formula (II d)



wherein  $P^{10}$ ,  $P^{11}$ ,  $P^{12}$ ,  $P^{13}$ ,  $P^{14}$ ,  $P^{15}$ ,  $P^{16}$ ,  $P^{17}$ ,  $P^{18}$ ,  $P^{19}$ ,  $P^{20}$  and  $P^{21}$  each

- 5 independently represent hydrogen, hydroxyl, alkyl having 1 to 6 carbon atoms or alkoxy having 1 to 6 carbon atoms, Y represents sulfur or oxygen, and m represents 0 or 1.